



Backgrounder — Earthquakes

Emergency Information

“All 50 states and all U.S. territories are vulnerable to earthquakes.”

- The best protection during an earthquake is to get under heavy furniture such as a desk, table or bench.
- The greatest danger exists directly outside buildings, at exits, and alongside exterior walls. Many of the 120 fatalities from the 1933 Long Beach earthquake occurred when people ran outside of buildings only to be killed by falling debris from collapsing walls.
- Ground movement during an earthquake is seldom the direct cause of death or injury. Most earthquake-related casualties result from collapsing walls, flying glass and falling objects.

Danger Zones

Earthquakes occur most frequently west of the Rocky Mountains, although historically the most violent earthquakes have occurred in the central United States. All 50 states and all U.S. territories are vulnerable to earthquakes. Forty-one states or territories are at moderate to high risk.

What Is an Earthquake?

An earthquake is a sudden, rapid shaking of the earth caused by the breaking and shifting of rock beneath the Earth's surface. This shaking can cause buildings and bridges to collapse; disrupt gas, electric, and phone service; and sometimes trigger landslides, avalanches, flash floods, fires, and huge, destructive ocean waves (tsunamis). Buildings with foundations resting on unconsolidated landfill, old waterways or other unstable soil are most at risk. Buildings or trailers and manufactured homes not tied to a reinforced foundation anchored to the ground are also at risk since they can be shaken off their mountings during an earthquake. Earthquakes can occur at any time of the year.

This document is IFAS publication DH 1803.

Adapted by UF/IFAS from:
Federal Emergency
Management Agency (FEMA)

“The Loma Prieta earthquake in 1989 registered 7.1 on the Richter scale and as high as XI on the Mercalli scale.”

Help Your Community Get Ready

The media can raise awareness about earthquakes by providing important information to the community. Here are some suggestions:

- Publish a special section in your local newspaper with emergency information on earthquakes. Localize the information by printing the phone numbers of local emergency services offices, the American Red Cross and hospitals.
- Conduct a week-long series on locating hazards in the home.
- Work with local emergency services and American Red Cross officials to prepare special reports for people with mobility impairments on what to do during an earthquake.
- Provide tips on conducting earthquake drills in the home.
- Interview representatives of the gas, electric and water companies about shutting off utilities.

Did You Know...

- Many people think of California as "earthquake country," but the state with the most major earthquakes is Alaska. The granddaddy of earthquakes was along the New Madrid Fault in Missouri where a 3-month long series of quakes in 1811–1812 included three quakes larger than a magnitude of 8. These quakes were felt over 2 million square miles.
- The Richter Scale was developed by Charles F. Richter in 1935. It is a logarithmic measurement of the amount of energy released by an earthquake. Earthquakes with a magnitude of at least 4.5 are strong enough to be recorded by sensitive seismographs all over the world. In the United States several thousand shocks of varying sizes occur annually.
- The effects of earthquakes are also measured by the Modified Mercalli Intensity scale. The intensity of a quake is evaluated according to the observed severity of the quake at specific locations. The Mercalli scale rates the intensity on a Roman numeral scale that ranges from I to XII.
- The Loma Prieta (northern California) earthquake of October 1989 registered 7.1 on the Richter scale and as high as XI on the Mercalli scale.